July 22, 1941. C. W. SADENWATER 2,249,983

FOLDING IRONING TABLE

Filed March 15, 1939

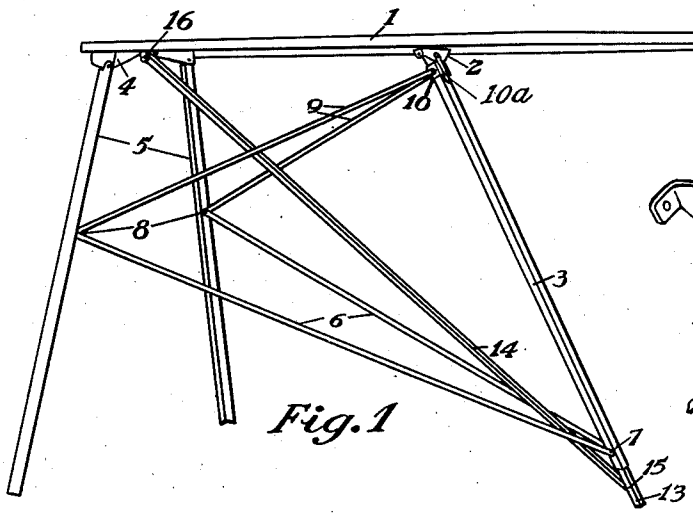


Fig. 1

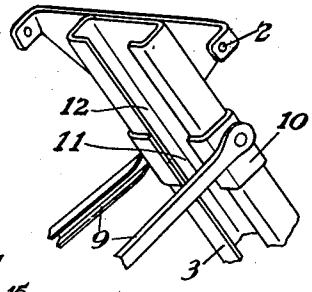


Fig. 3

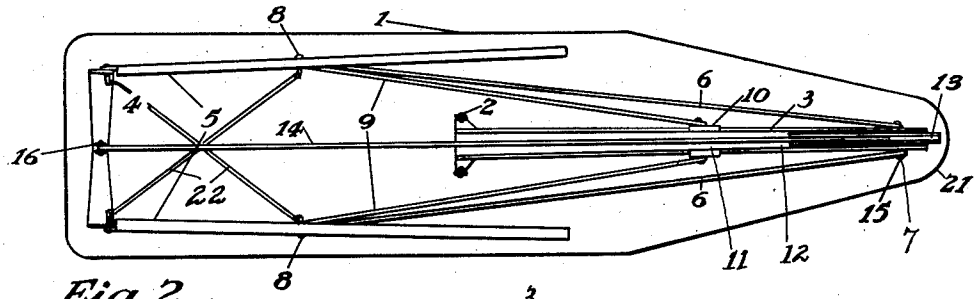


Fig. 2

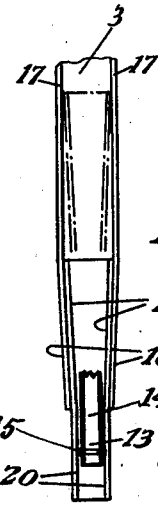


Fig. 4

INVENTOR
CHARLES W. SADENWATER,
BY George B. Willcox
ATTORNEY.

Patented July 22, 1941

2,249,983

UNITED STATES PATENT OFFICE

2,249,983

FOLDING IRONING TABLE

Charles W. Sadenwater, Saginaw, Mich., assignor to Saginaw Manufacturing Co., Saginaw, Mich., a corporation of Michigan

Application March 15, 1939, Serial No. 261,897

2 Claims. (Cl. 38—117)

This invention relates to folding ironing tables and pertains more particularly to the structure and mode of operation of the centrally arranged front leg which is hinged to the table top, and to the folding member associated with that leg.

More specifically, my improved front leg structure is adapted to be used with a folding ironing table of the kind disclosed and claimed in United States Patent No. 1,628,773, issued May 17, 1927, and Patents Nos. 1,627,556 and 1,627,557, issued May 10, 1927, to Henry J. Gilbert.

In that patented structure the centrally arranged front leg consists of a shaft hinged to the table top. It is long enough to reach the front end of the board when the leg is folded flat against the lower face of the board. When erected, however, the front leg touches the floor at a place so far from the end of the board as to leave a considerable length of the board overhung, that is, projecting ahead of the point where the front leg rests on the floor.

Stability of the board in use depends upon the spread of the three supporting legs, and also upon the amount of forward overhang of the board. It is desirable, therefore, to have the foot of the front leg as far forward as possible when the table is erected, although the leg when folded flat against the board should not project beyond the front end of the board.

An object of my invention is to provide a front leg structure which, although in general following the mode of operation disclosed in the said Gilbert patent, distinguishes therefrom by automatically lengthening when moved from folded to the erected position, and by automatically shortening when moved in the opposite sense. The effect of such lengthening is to increase the length of effective supporting base defined by the legs on the floor and to so improve the rigidity and stability of the table in use. The effect of shortening is to automatically keep the front leg within the length of the board for convenience in packing and handling.

My invention also relates to certain details of construction of the front leg and its associated members which are designed to attain maximum stability and strength while facilitating the manufacture and assemblage of the parts with consequent simplification and economy in the commercial production of the table.

In the drawing, Fig. 1 is a side view of the table with the legs extended to working position;

Fig. 2 is a bottom plan view of the board with the legs in closed position;

Fig. 3 is a fragmentary view in perspective, showing the slidable sleeve on the front leg; and

Fig. 4 is a fragmentary diagrammatic view of the telescopic connection between the front leg and the extension member for the leg.

The ironing board 1, like that shown in Patent No. 1,628,773, has secured to its under side a front bearing member 2, to which is pivoted the front leg 3 of the supporting structure. A rear bearing member 4 has the spreading rear legs 5, 5 pivoted to it independently. The front leg and rear legs are connected together by a pair of connecting rods 6, 6 which are both pivotally connected at 7, 7 to opposite sides of the front leg 3 near its outer end, and are also pivoted respectively to the rear legs at intermediate points of the latter by means of pivot pins 8, 8. The proportions and arrangements of the parts are such that in folded position the legs and connecting rods will lie flat against the lower face of the board, as shown in Fig. 2, and in extended position will occupy the position shown in Fig. 1.

To keep the foldable structure in extended position and also to brace it a pair of locking truss rods 9, 9 are provided. These rods have their rear ends pivoted at 8, 8 to the rear legs 5, 5, respectively.

The truss rods 9, 9 are pivoted at their front ends to opposite sides of a sleeve 10 slidingly mounted for lengthwise movement along the front leg 3. Preferably, a wall of sleeve 10 is cut away as shown at 11, Fig. 3.

The front leg 3 is preferably of channel shaped cross section, the open side 12 of the channel being directed rearwardly and matching the above mentioned cut away part of the sleeve. As shown in Fig. 2 the channel 12 receives compactly a diagonal brace 14 which will be described presently. The front leg is releasably maintained in its extended position by means of a suitable spring latch 10a that engages the sleeve 10 in known manner and holds it and the truss rods 9, 9 at the upper end of the leg 3, Fig. 1.

The structure so far described is substantially that of the Gilbert Patent No. 1,628,773, except as to the channel-shaped front leg 3 with its open side 12 and the correspondingly shaped slide 10 thereon with its cut away part 11, shown in Fig. 3.

To automatically extend the length of the front leg 3 when the table supports are erected as shown in Fig. 1, I supply an extension member 13 for the lower end of the front leg. The member 13 is also channel shaped and is slidingly and telescopically mounted at the bottom end of the

front leg 3. The bottom end of the extension member 13 is the foot of leg 3.

Intermediate the projecting portion of the member 13 a diagonal brace 14 is pivoted, as shown in Fig. 1. The end of the brace 14 is received in the channel of the extension member 13, being secured thereto by a pivot 15.

The upper end of the diagonal brace 14 is hinged to the board 1 at a point rearward of the hinge connection 2 of the front leg.

In Figs. 1 and 2 I have shown the diagonal brace 14 hinged at 16 to the bracket 4 that carries the rear legs 5, 5. This is a desirable arrangement, although the hinge 16 may be forward of the rear leg hinge, or rearward thereof, if desired. The member 13 when fully extended fits the front leg 3 closely.

However, the construction is such that as soon as member 13 is pushed back a short distance into the channel-like leg 3, it will become entirely free to slide without binding. For that purpose I make the walls 17, 17 of the front leg 3 parallel for a considerable part of its length, but taper the two side walls 18, 18 inward at the lower end of the leg 3. The upper portion of the extension member 13 which is received in the channel of the front leg is also tapered inwardly toward its lower end, as indicated at 19, 19, Fig. 4, and the bottom projectable portion 20 is straight sided. By this arrangement the tapered part 19 of the extension member 13 will fit the tapered part 18 of the front leg snugly when the extension member is in its outwardly projected position, but as soon as the extension member is drawn back into the leg a short distance the tapered parts 18, 19 will no longer be tightly engaged and the extension member 13 can be moved back and forth in leg 3 without frictional resistance, as shown by broken lines.

When the table is folded the front leg 3 receives the diagonal brace 14, since the hinge 16 is located, as shown, in an axial plane containing the front leg. Thus the brace 14 is adapted to mesh into the kerf in the channel.

The channel comprising the leg 3 is of such length that when it is is folded flat against the under side of the board 1 it will extend from hinge 2 substantially to the front end 21 of the board. See Fig. 2. But the pivotal point 16 of the diagonal brace 14 is located so that when the supports are folded against the board the extension member of the leg 3 will have been pulled telescopically into the leg to bring the outer end of the extension member 13 substantially even with the end 21 of the board. Thus the leg 3 automatically is increased in length by the action of the diagonal brace 14 whenever the leg is brought to its extended position, and the leg is automatically retracted to the end of the board when the leg 3 is folded.

In its extended position the front leg 3, together with the two rear legs 5, 5, afford a considerably larger three-point base support for the table than otherwise could be provided with a non-extensible front leg structure.

In erected position the supports are held rigidly in place by triangular structures comprising the connecting rods 6, 6, and the locking truss rods 9, 9, the diagonal brace 14 and the legs.

With my improved extension member 13 and diagonal brace 14 the extension member will be locked rigidly in its extended position, since the diagonal brace acts as a tie-rod or strut, yet the table can be folded easily. The diagonal brace 14 occupies the channel presented by the front leg 3 and extension 13 when the table is folded, making a thin compact package.

Although the preferred embodiment of the invention has been described, it will be understood that the invention may be embodied in other forms within the scope of the following claims.

The rear legs 5, 5, when erected, may be spread and rigidly sustained against racking tendencies caused by lateral stresses to which the table may be subjected in use, by connecting them with diagonally crossed bars 22, 22 that spread the legs when the table supports are extended and contract the legs within the boundaries of the side edges of the board 1 when folded.

The structure and mode of operation of these cross bars is described and claimed in United States Patent No. 2,042,075 issued to me May 26, 1936.

The location of the diagonal bars is shown in Fig. 2, but is omitted from Fig. 1 for the sake of clearness.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An extension device for the hinged front leg of a folding ironing table, comprising in combination, an extension member associated telescopically with the free end of said front leg and comprising a parallel sided portion and a portion tapered inwardly toward the free end of the front leg, said leg being provided adjacent its free end with portions matching the said inwardly tapered portion of the extension member, a hinge located on the table rearwardly of the front leg hinge, a diagonal brace having an end secured to said rear hinge, the other end of said brace being pivotally connected to said extension member.

2. An extension device for the hinged front leg of a folding ironing table, comprising in combination, an extension member associated telescopically with the free end of said front leg, a hinge located on the table rearwardly of the front leg hinge in an axial plane containing the front leg, a diagonal brace having an end secured to said rear hinge, the other end of said brace being pivotally connected to said extension member, said front leg being of channel-shaped cross-section and presenting when in folded position an open side outwardly directed, being adapted to receive the said diagonal brace within such open channel.

CHARLES W. SADENWATER.